

Leica

PHOTOGRAPHY





Leica

PHOTOGRAPHY®

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COVER

Larry West

Wearing Easter finery, this sprightly group of mushrooms was photographed by the light of a Braun Hobby F-60. West, a Michigan free-lance photographer who specializes in nature work, used an M3, 135mm Hektor, Visoflex, Bellows and Sky-light filter. Film was Kodachrome at f/16.

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◀ INSIDE COVER

Manuel Komroff

"Tom Sawyer and Huck Finn" are actually summer neighbors of Komroff's in Woodstock, N. Y. — Jonathan and Cragge Hubbell. The photographer's art-that-conceals-art lay in choosing a straightforward approach. Such picture-worthy faces need no elaborate posing. Leica M3, 50mm Dual-Range Summicron, Plus-X, f/8, 1/125th.

Leica Photography is published by E. Leitz, Inc., at 468 Park Avenue South, New York, N. Y. 10016, price forty cents. Copies are sent free of charge to all original purchasers of new Leica cameras or lenses residing within the United States of America and U.S. Territorial Possessions who have registered such new equipment with E. Leitz, Inc. To all others, a subscription fee of \$1.00 per year is charged in the U.S.A., and \$2.00 elsewhere. Single copies are on sale at photographic dealers' stores, or direct from the publisher.

The editors are happy to consider original articles on photography with the Leica and photographs taken with Leica cameras and lenses. All manuscripts and photographs should be accompanied by stamped, self-addressed return labels.



show place

GERRY CRANHAM, sports photography



TOP RIDERS' SCRAMBLE at Brands Hatch. M3 and 135mm Hektor.

One of photography's hardest-to-answer questions is, "How can I make a sports picture that is *different*?" In this field, perhaps more than in any other, the photographer has little control over lighting, action, expression and the other elements with which he must work.

The answer to the question seems to lie in two basic requirements: a deeply personal vision on the photographer's part, and the use of equipment which is versatile enough to take advantage of that vision.

One such photographer is Gerry Cranham, Britain's leading freelance sports photographer. He has reached that eminence in just three years. Previously he was a draftsman; before that, while in the Army, he had been an outstanding athlete — a

champion half-mile runner.

It was his success as an athlete that led him at last to photography. After his Army service, Cranham spent his spare time training youngsters. And, intending only to make action pictures of his pupils which would help them to improve their techniques, he bought a camera.

Gradually, however, his interest shifted more and more to photographic techniques. A few of his pictures were sold to runners and other athletes. Then some wedding and portrait assignments came through. And with this small beginning, Cranham began to prepare to go further. Overtime work at the drawing board provided the money for his first Leica — a IIIc with 50mm and 90mm lenses.

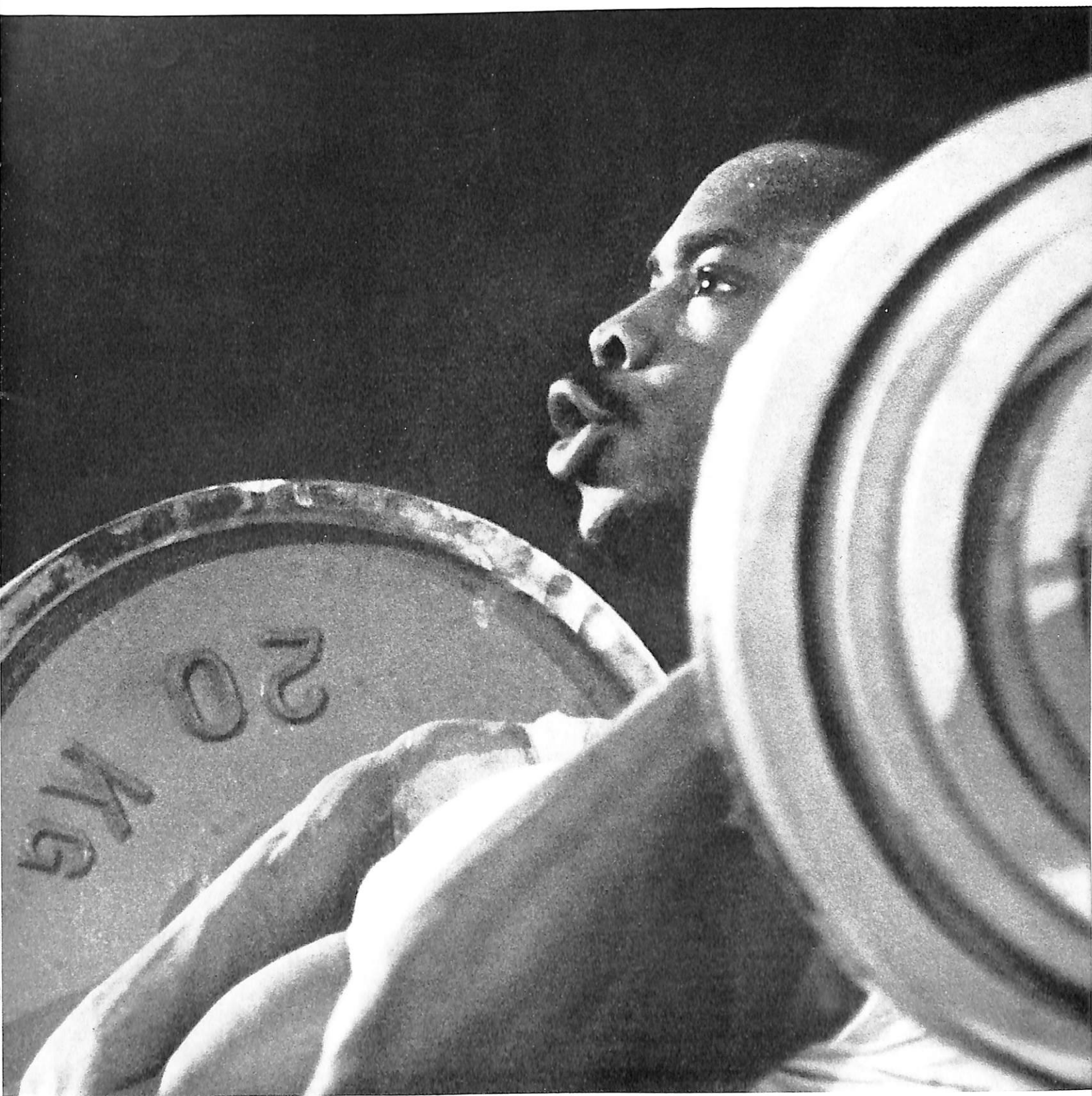




INDIFFERENT SPECTATORS dine at trackside as cyclists whiz by. M3 and 50mm Summilux.



CURLING MATCH produces maximum effort from burly competitor. M3 and 135mm Hektor.



STRAIN was worthwhile; Louis Martin set British press record. M3 and 90mm Elmarit.



Months of picture-taking in dimly-lit dance halls and night clubs sharpened his skills. Picture-making became a reflex action, technique second nature. His senses were freed to concentrate on his subjects.

During this time, too, he realized that available light was somehow "right" for him and his pictures.

He also decided that, in his sports photography at least, frozen action was wrong. The movement drama in the scenes he pictured seemed best realized with the slight movement blur which resulted from slower shutter speeds.

While still a draftsman, he realized one day that he was receiving more telephone calls than was his boss, so active a photographer had he become. Should he leave the security of steady work to take his chances as a free-lance photographer? It was a hard decision. But with his wife's encouragement, he made the switch.

At first he traded his Leica for a 4 x 5 because he saw many in use by other sports photographers. But his approach, his whole philosophy about sports photography kept pointing him back to his first love, the Leica. So, he bought an M3 and lenses from 21mm through 135mm. After selling his 4 x 5 camera, he bought a second M3 body. He now began to work in earnest.

During his three-year rise to prominence in his chosen field, Cranham has added other cameras and lenses to his arsenal of equipment — most of them 35mm. His processing, which he does himself whenever possible, is kept simple, Tri-X and D-76 are his standbys. For color, he stays with High Speed Ektachrome and Kodachrome II.

But fine equipment is only a small part of Gerry Cranham's secret. What counts most is his insight — his own, individual approach to the vital detail. Along with it, he brings a respect for sports, learned from the inside during his days as a runner.

Most evident in his work is Cranham's sympathy for and his identification with the athletes. The strain, the sweat, the unexpected mishaps are all part of a Cranham story. And all help to set his work apart from the ordinary.

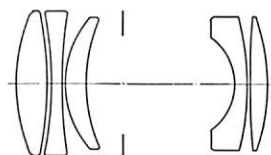
Physical fitness (he still strains weekly at a running track near his home) is another factor in his success. He finds that, in covering field sports, he needs all the wind he can muster to keep up with the action.

And finally, there is "needle" — a tingling nervousness that keeps athletes keyed up to putting forth their best effort. Its effect has carried over from earlier days into his work as a photographer.



A COOLING DIP interrupts 15,000-meter Steeplechase. Damp but undeterred, the runner carries on. M3 and 35mm Summaron.





FACTS ABOUT THE
90mm TELE-ELMARIT f/2.8

| | |
|---------------------------------------|-----------------------|
| MAXIMUM APERTURE | f/2.8 |
| MINIMUM APERTURE | f/16 |
| ANGLE OF VIEW | 27° |
| CONSTRUCTION | MEDIUM-LONG TELEPHOTO |
| NO. OF ELEMENTS | 5 |
| CLICK STOPS | FULL & HALF |
| FILTER TYPE | LEITZ E 39 |
| CLOSEST FOCUS | 3'4" |
| MINIMUM FOCUS AREA | 8.6 x 13" |
| WEIGHT | 12.5 ozs. |
| LENGTH (CAMERA BODY TO FRONT OF LENS) | 60mm (2 3/8") |

new 90mm Tele-Elmarit f/2.8

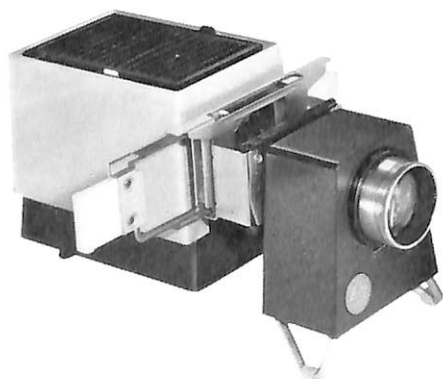
the littlest telephoto of them all

A rangefinder-coupled, 5-element, true telephoto lens — the 90mm Tele-Elmarit f/2.8 — has just been added to the Leica lens line. Designed for travelers, hikers, news and magazine photographers and others to whom compact equipment is a "must," the new lens is not intended to replace other 90mm Leica lenses. It is designed for rangefinder use only and not for the Visoflex or Bellows.

Since it is a true telephoto lens, the mount of the Tele-Elmarit is far shorter than that of a conventional 90mm lens. It is, in fact, only $\frac{3}{8}$ " longer than that of a 50mm Summilux.

The Tele-Elmarit has twice the speed of the collapsible 90mm Elmar f/4 lens, yet weighs only a fraction of an ounce more. Filters, lens hood, and lens caps for the new Tele-Elmarit are the same as those used for the 90mm Elmar and Elmarit.

The 90mm Tele-Elmarit combines superb optics, compactness and light weight with ample speed in the focal length which most photographers choose for their first accessory lens. In the gadget bag or on the camera, the Tele-Elmarit is the most convenient 90mm ever to be offered to Leica owners. Price is \$192.00; Catalog number is 11,800.



new Pradix Projector pint-sized powerhouse

has quality optics, modest price

To the many photographers who have asked for a small, simple 150w, 110v projector which combines quality optics with modest cost rather than super-automation, Leitz now offers the Pradix projector.

Measuring only $8\frac{1}{2} \times 4\frac{1}{4} \times 5\frac{1}{4}$ inches, the new Pradix is the smallest of the Leitz projectors and replaces the Prado 150. It is so small that it carries a socket in its base, so that you can use a tripod as a projection stand, should the need arise. Yet, thanks to superb optics and its newly-computed, oversized

aspheric condenser system, the little Pradix outshines some projectors boasting 300w bulbs.

simple but versatile

The Pradix emphasizes quality optics and simple operation. It can handle all 2 x 2-inch slides from 18 x 24mm (single-frame 35mm) to a 4 x 4cm (Super-slides). Its manual slide changer rotates 90° and can, with an accessory film-strip transport (to be available later), accept film strips for educational use.

Improved convection cooling provides ample lamp-house ventilation and keeps the operating temperature comfortably low without the need for a blower. At the rear of the projector are an on/off switch and a control wheel for the vertical adjustment foot which raises or lowers the image on the screen.

three lenses

Corner-to-corner sharpness and brilliance in widely varying projection situations are provided by lenses of three different focal lengths. The 100mm Elmaron f/2.8 is currently supplied with the Pradix and is excellent for all-round use. Also in preparation for later delivery are an 85mm Elmaron f/2.8 and a 50mm Elmar f/2.8 lens. The 85mm focal length will be useful when room dimensions prevent moving the projector far enough back to fill the screen when using the 100mm lens. The short focal length of the 50mm lens, in conjunction with a small screen, makes

the Pradix an excellent desk-top projector for slide editing or sales presentation work. It is also useful with normal-sized screens for projecting half-frame (18 x 24mm) slides.

Accessories for the Pradix projector will include a plastic carrying case and a film-strip carrier.

The small size and portability of the Pradix, coupled with its superb optics and versatile array of lenses recommend it not only for use in the living room, but also for the classroom and conference room. Another and rather unusual use for the Pradix is as a spotlight for close-up photography. The use of projectors as spotlights is described elsewhere in this issue in the article "Curing Close-Up Headaches."

Price of the Pradix, complete with 100mm Elmaron f/2.8 projection lens, manual slide changer and 150w bulb is \$69.00 (Cat. No. 31,400). With 85mm Elmaron f/2.8 (Cat. No. 31,403) the price is \$64.50. A plastic carrying case (Cat. No. 37,413) is \$7.80.

focusing on...

screw-mounting accessories

The demands of current production of Leica M cameras and lenses have strained facilities at the factory in Wetzlar. Result: production of certain accessories and lenses for former, screw-mounting Leica models will be suspended to provide more facilities for the making of current and future equipment.

So, certain Leica items will be in short supply in the future. Among them are: screw-mounting lenses, the Visoflex and some of its accessories, plus other miscellaneous items.

If you have been planning to acquire any extra accessories for your "classic" Leica, it might be wise to check with your dealer about them soon. Once current stocks are gone, he may not be able to secure the specific item you want.

color courses

Helen C. Manzer, F.P.S.A., A.R.P.S., the widely-known color photographer, teacher, judge, exhibitor and lecturer, will again offer courses in color photography this summer and fall.

There will be three courses offered on California's Monterey Peninsula: First group from May 24 to June 5; second group from June 14 to June 26; third group from June 28 to July 10. Further infor-

mation about these West Coast courses is available from Louise Van Sickel, P.O. Box 661, Carmel, California.

The East Coast courses will be held in the famous Lakes Region of New Hampshire. The first course is from July 27 to August 7; second course, August 10 to August 21. Two special courses, featuring fall foliage are also offered. First of these is from September 27 to October 2 and the second from October 4 to October 9. For more information about the New Hampshire courses, write to Ruth L. Wiesen, P.O. Box 70, Laconia, New Hampshire.

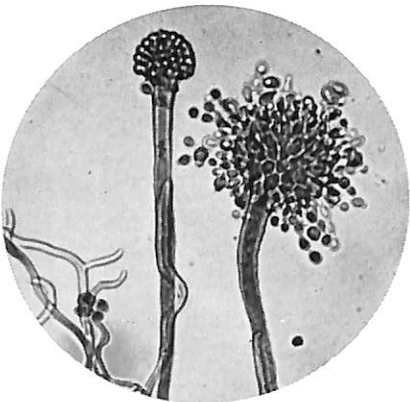
contributors

C. B. Nieberding, whose article on portraits appears in this issue, is a salesman for Camera Mart in Baltimore, Md. where, at last count, no fewer than 11 employees (including the owners) own Leicas personally. This article about the aesthetics of portraiture complements the author's previous Leica Photography story on Rodinal which recounted his experiences in achieving a simple, sure processing technique.

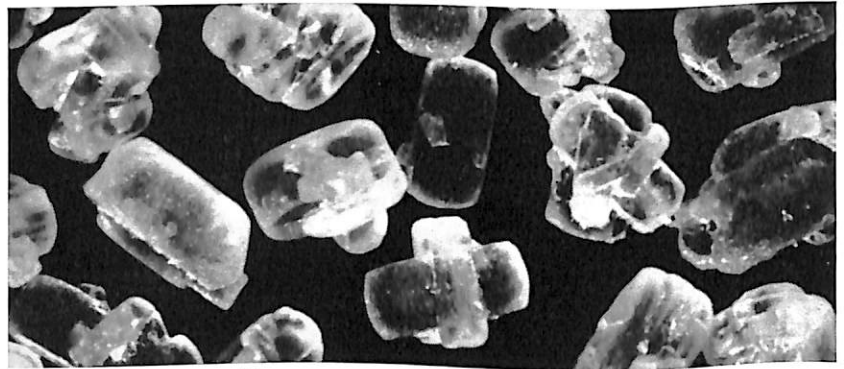
Douglas F. Lawson of Banstead, Surrey, England, is a scientific photographer and writer — author of "The Technique of Photomicrography." Among other awards for his work, he has received the Royal Photographic Society's Bronze Medal for his outstanding photomicrographs in both color and black-and-white.



PHOTO DEVELOPER CRYSTALS 30 X

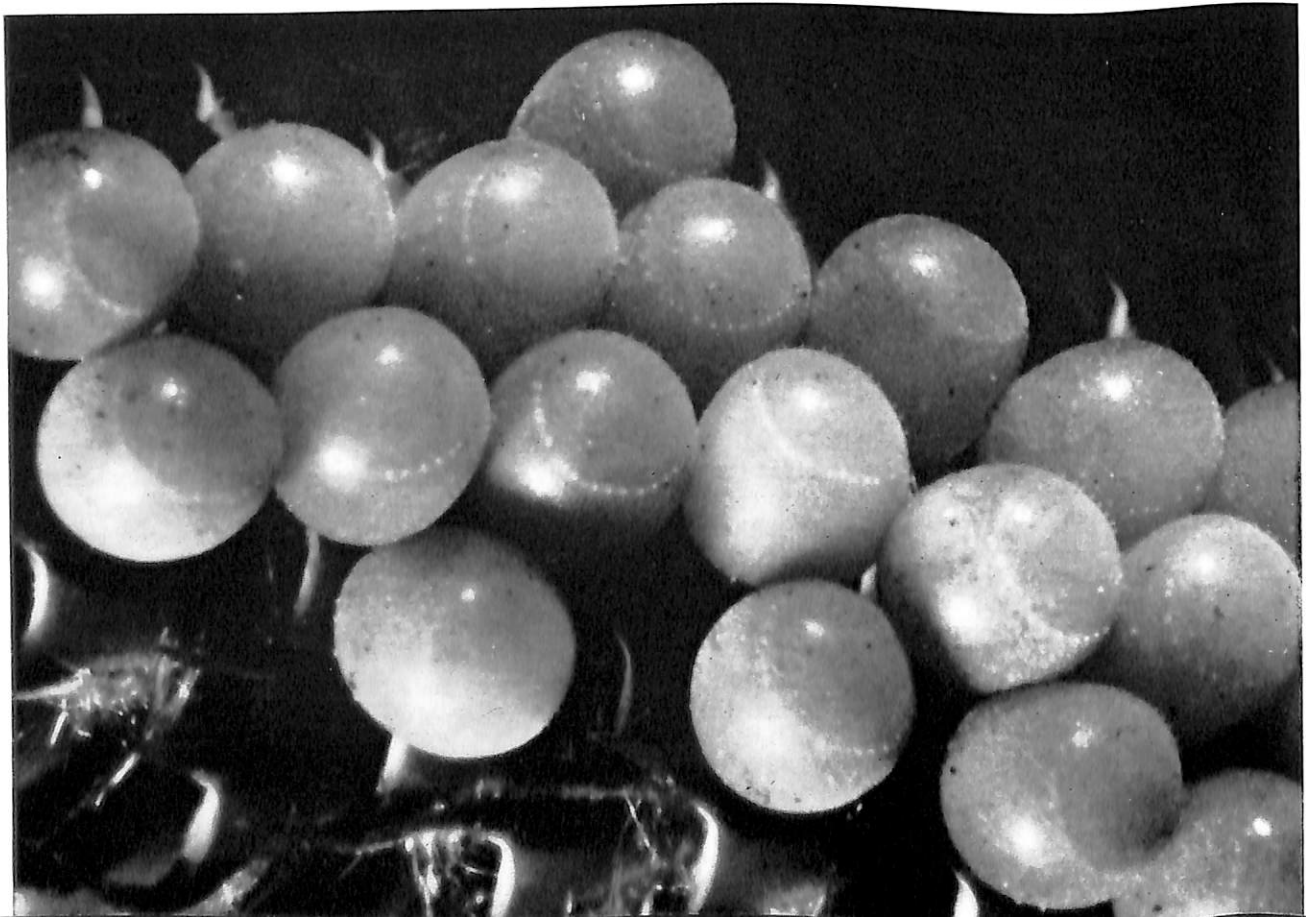


ASPERGILLUS TERREUS 450 X



ASPIRIN CRYSTALS 80 X

SHIELD BUG EGGS 50 X



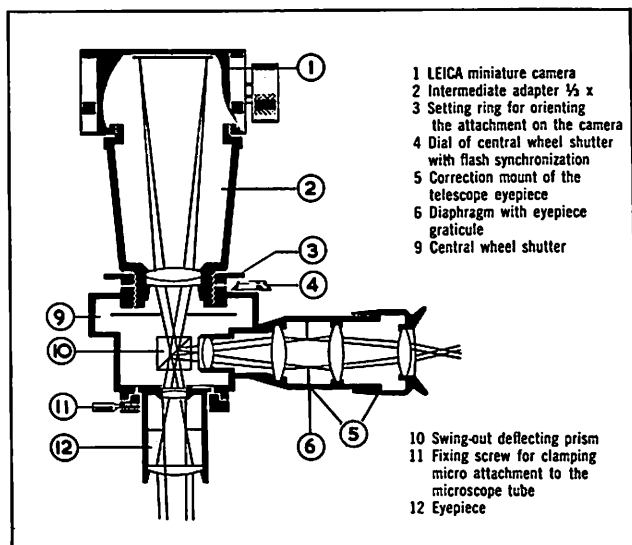


Fig. 2. MICRO-IBSO has a beam-splitting prism, which permits a continuous view of subject, even during the exposure is desired.

accept the limited depth of field or penetration. I therefore suggest you have a thin section to photograph.

When using low-power objectives I do not use the substage condenser because its cone of light is not wide enough to illuminate "large" subjects.

illumination

Lighting (Figure 1, 27) its form and its application, is one of the most important factors in photomicrography. Uneven illumination can sometimes be traced to the substage condenser having been too high or too low, or lamphouse condenser out of focus (Figure 1, 29). Sometimes uneven illumination is due to the light source not being in alignment with the axis of the lamphouse condenser. (Figure 1, 30). A little more care in positioning the mirror (Figure 1, 25) could obviate this fault. When photographing an opaque specimen with one light only, introduce a white reflector. Moving opaque subjects are far more difficult to photograph. They demand a short exposure, which in turn necessitates a strong cone of light to illuminate them. The type of light source illustrated here is ideal for illuminating delicate life as it does not dissipate undue heat.

Flash can be introduced without any difficulty in particular when photographing opaque subjects. The coiled filament source can be used to flood the specimen while focusing, and if the flash is prefocused on the specimen, all you have to do is to fire the flash when all is ready. Avoid hard black shadows. These can look like holes beneath the subject.

filters

The use of the correct filter in this subject may increase not only the image contrast of the photomicrograph, but also its definition, due to the reduction in chromatic aberration. This is particularly true of an achromatic lens system combined with a yellow-green filter.

There are occasions when a subject is far too contrasty in one color, making it difficult to get detail and good tonal values in a print. In such cases it is necessary to reduce the contrast in one color to emphasize another. For instance, when a subject is stained both red and blue, the colors may reproduce in like tones in a monochrome negative. To distinguish one from the other, it is necessary to use a filter which is identical to one color and complimentary to the other. On the other hand, when making visual observations it is not necessary to use a filter.

emulsion

It is also important to use the right type of film, one which gives fine definition and good tonal values without being too contrasty. Adox KB 14 or Kodak Panatomic-X are examples of such film.

A dense negative will not produce the best prints. Avoid using contrasty developers. Instead, use one which gives a soft result and above all will retain maximum detail and separation. Color film can be used with great success, but for color work you ought to purchase an exposure meter specially designed for photomicrography. (The new Leitz Micro-Six L, available through Leitz Microscope Dealers, is such a meter.

exposures vary

Exposures for photomicrography vary greatly. On your first attempts, if not using a meter, use a series of different exposures, starting with a fast speed and doubling the exposure time of each succeeding frame. Keep records and check your results. From these you will find basic guides to future work . . .Ed.

Keep in mind that the major interest in any photomicrograph, other than its purely aesthetic qualities, is that it reveals something which cannot readily be seen in any other way. Camera and microscope, working together, record the design and structure of minute creatures and extend your knowledge of a fascinating part of the universe. What's more, they enable you to share it with others.

But, above all, you must understand the microscope and its application to photography. Otherwise you will find it is impossible to produce clear sharp photomicrographs of any value.



Lufthansa offers "Europe-through-Leica" tour

visit to Leitz factory a feature

This summer Lufthansa German Airlines will again offer a jet-liner tour of Europe featuring a visit to the Leitz factory in Wetzlar, Germany. Tour members, who will leave John F. Kennedy International airport in New York on July 15, will be joined in Europe by a photo expert from the Leitz factory. He will be on hand for the remainder of the trip to answer tour members' photographic questions, point out the best picture angles, aid in solving exposure and posing problems and generally help everyone to bring pictures back "alive."

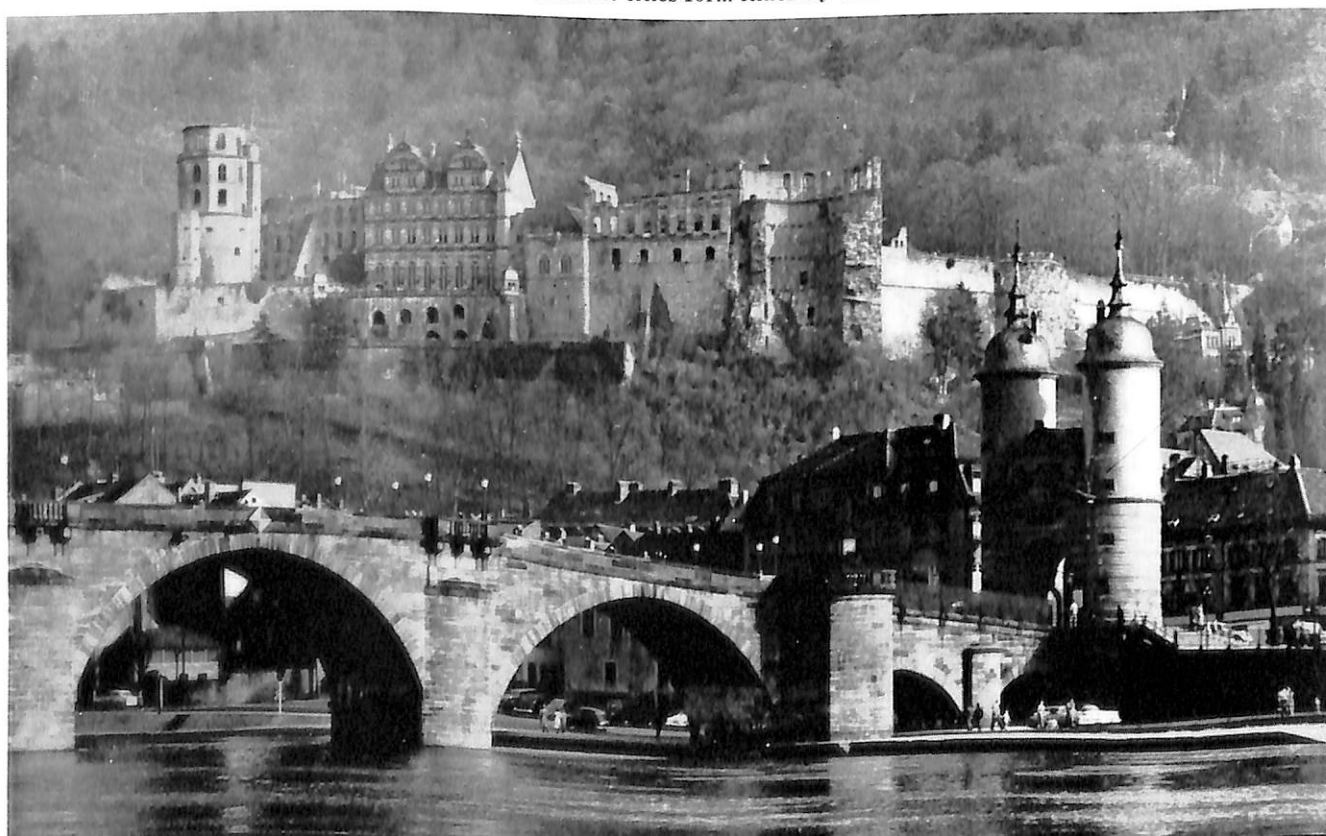
The 20-day tour is being sponsored jointly by Lufthansa and Lindblad Travel, Inc. and is planned with photographers in mind. Leica owners will especially enjoy a visit to the Leitz works on July 30 where they will be able to see the laboratories and manufacturing and testing facilities that produce

the Leica. There they will have a chance to question factory technicians and to get advice on Leica techniques.

The itinerary is also designed with an eye to the photogenic in Germany and Switzerland. Among the scenic spots to be visited are Garmisch Partenkirchen, Lindau, Lake Konstanz, Lucerne, Berlin, Weisbaden, Cologne and other interesting and historic locations.

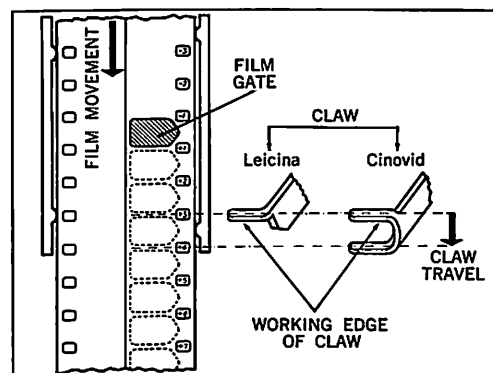
Cost of the tour, which will leave New York on July 15 and return to New York on August 3 includes transportation, room, most meals and hotel service charges. Price of the 20-day tour is \$855. Full details of the tour are available from its sponsor, Lufthansa German Airlines, Dept. BV, 410 Park Avenue, New York 22, N.Y. E. Leitz, Inc. *cannot* supply these details.

HEIDELBERG and other scenic cities form itinerary of summer tour.



movies jumpy? jumpy? jumpy? | John Brooks

equipment may be unhappily married



The scripting, cueing, rehearsing, cutting and final editing are done. Your audience waits expectantly for the color and movement of your latest achievement in creative moviemaking to begin. The lights dim, the screen glows with the footage into which you have put both pride and work.

And what happens?

The picture vibrates like a tuning fork, bringing pleasure to no-one and varying degrees of pain to you and, more important, your audience. Nothing is more annoying to the viewer than to have the picture bounce up and down on the screen. Most movies are taken hand-held, and we have conditioned ourselves to some picture unsteadiness in this respect. But we cannot tolerate the up and down image jump caused by variable framing in the projector.

mismatched equipment

Oddly enough, a projector which works perfectly may very well project jumpy images produced in a camera which also works perfectly. Like two lumps of uranium, each does no violence until it associates with the other. And, unfortunately, even the most precise projector can spoil the work of the most precise camera unless the two are literally "made for each other." Here's why: In the camera, the film is advanced from frame to frame by a claw. And in the projector each frame is also successively positioned in the gate by a claw. If the projector claw doesn't advance the film exactly as did the camera claw, the image will shift on the screen.

And, alas, there is no standard, either for projector or camera, stating which perforation should be used by the claw. Each manufacturer has his own ideas. Cameras vary from minus five, where the claw engages five perforations before the frame, to plus eight (eight perforations beyond the frame). And in projectors the variation is even greater; from minus nine in certain makes to plus fifteen in others.

What's more, it is impossible to manufacture movie film in which each perforation is spaced within a split-thousandth of a millimeter's tolerance. In fact, the ASA standard allows a variance of 0.001 inch (pitch) in the spacing between perforations. So, unless the projector's pull-down claw engages the same perforation as the camera's claw, there can be

a thousandth of an inch difference in positioning of frames in the projector's gate.

But what's one thousandth of an inch? Not much — until you magnify it more than 280 times to fill a 50-inch home screen. Then it amounts to more than a quarter-inch of picture jump. Variations in individual perforations (hole diameter) can add an extra half-thousandth, producing a total of more than $\frac{3}{8}$ ths of an inch of movement in the image on the screen.

teamwork

The way to bring rock-steadiness to the picture on the home screen is to use a projector whose claw action matches that of your camera. And that's just what happens when the Leitz Cinovid is used to project movies made with any Leitz Leicina camera. They are designed to work as a team, and the results show it.

The Leicina's claw engages the third perforation (+3) after the frame. And the Cinovid engages the same (+3) perforation when projecting the film. Therefore any difference in spacing between perforations will be the same when projecting as when filming the original. Result: screen images with theater-quality steadiness.

As relatively simple as the solution to screen steadiness is, it is surprising to find so few camera-projector combinations in which the camera and projector claws engage the same perforation. For instance, magazine-loading cameras, because of design necessities, all have the same claw position (-1). Yet there is no projector available whose claw position matches this!

Here are a couple of other ways in which the Leicina Cinovid team solve the problems of steady screen images:

The Leicina uses a simple claw to move the film, but the Cinovid uses a double claw. The upper, or working claw, one engages at +3, and the lower, or standby claw, takes over if the upper perforation should be enlarged, torn or otherwise damaged.

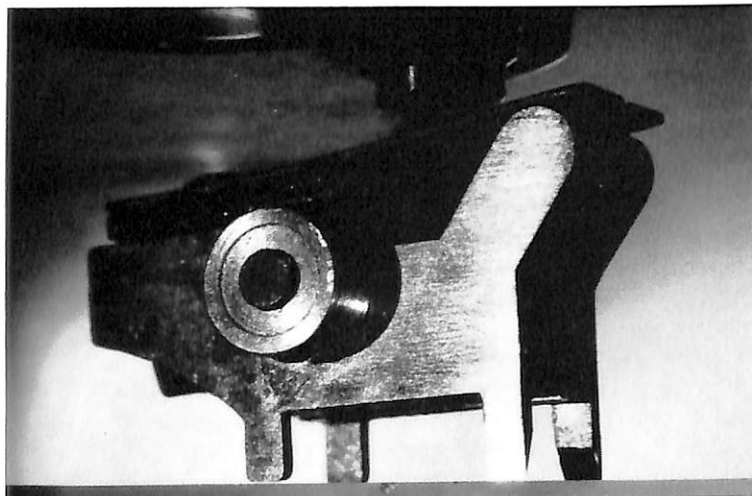
And the claws in both the Leicina and Cinovid not only pull the film down, but push it against the side of the film gate track keeping it perfectly aligned horizontally. This push is against the perforated edge and not the cut edge, which can vary.

curing close-up headaches / Harvey Shaman

small subjects bring big problems

One of my most challenging assignments was to produce a series of macro photographs of very small segments of some products for the graphic arts and engineering fields. The idea was to produce visual "stoppers" for a series of ads to be prepared by O. S. Tyson & Co. Inc. for Keuffel and Esser.

We had two basic approaches: The first was to make a photograph to carry out a predetermined idea; the second was to explore a subject photographically and then have copywriters hang a verbal idea on the completed pictures.



TROJAN HORSE? No, but there *is* more here than meets the eye . . . the hidden feature being K&E precision that pays off in performance. Pictured is a portion (much enlarged) of one of K&E's 9000-plus quality products for engineers, surveyors, and draftsmen. Can you guess which of the following it is?

- | | | | |
|----------------------------|-------------------------------------|---------------------------------|----------------------------|
| 1. Suspended pantograph | 2. PARAGON® Jr. drafting machine | 3. Circuit path cutting tool | 4. Alignment collimator |
|----------------------------|-------------------------------------|---------------------------------|----------------------------|
- Check the answer on page 16. Check with us for details on the full K&E line.

The "Trojan Horse" photograph of the printed circuit path cutting tool is an example of the first approach. The shape of the tool suggested the Trojan Horse idea. The subject was then lighted and photographed at an angle which reinforced the idea.

In producing the photographs, I had four big headaches: vibration, heat, depth of field and lighting.

vibration

Perhaps the most difficult problem was vibration. My first roll didn't show a single, reasonably sharp negative. Careful study of the enlargements plus an analysis of the working techniques convinced me that I had a severe case of vibration. And there were five sources from which it could have come: an unstable tripod; movement of the base that the tripod was standing on; subject movement; movement of the base the subject was standing on — including even the entire building or floor.

In macro photography even the most minute camera movements are magnified to an extraordinary degree. Therefore, the camera, subject, lights — everything — must be absolutely motionless during the actual exposure. To see how easy it is to introduce motion into a setup, take a lightweight tripod, extend the legs, and hang a long, weighted string from it. You will be amazed at how long it takes the string to become absolutely motionless, or how little it takes to set it in motion. This taught me my first lesson: use a heavy tripod with the legs extended as little as possible.

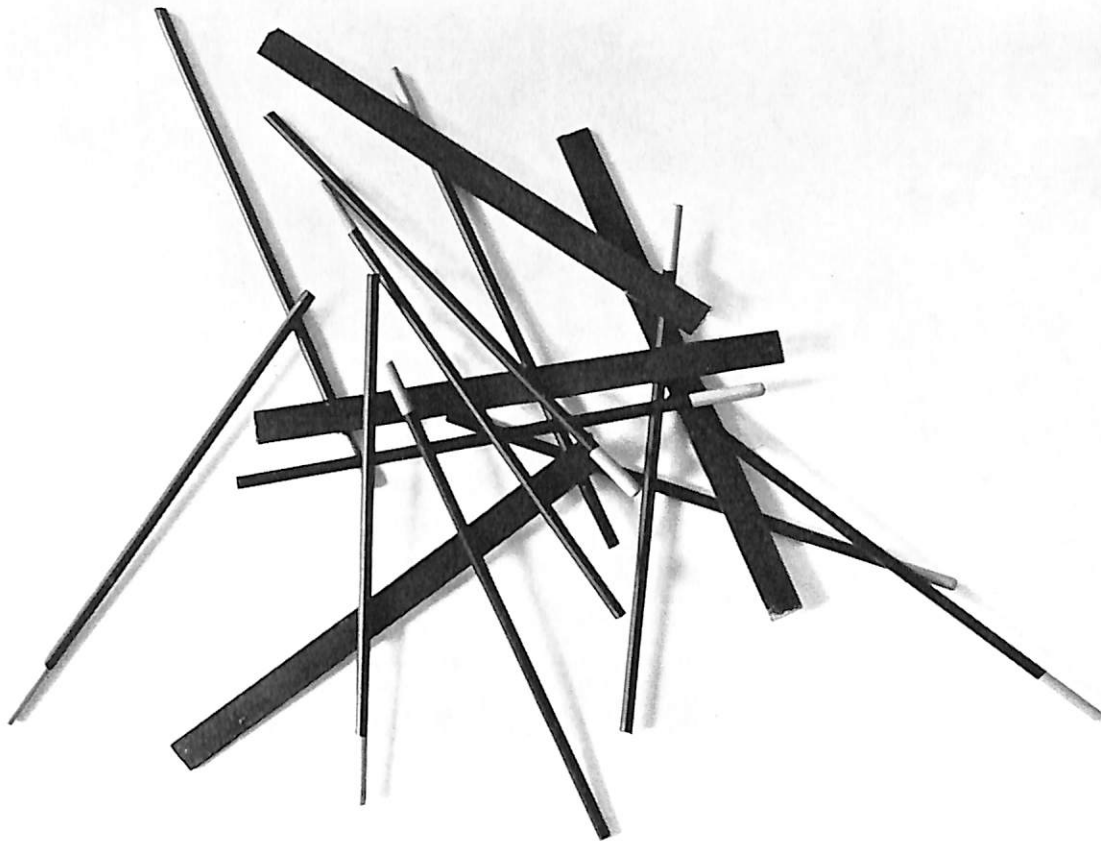
(The Leitz Table Tripod, with its short, strong legs makes a very rigid camera stand for close-up work. It is used with the large Ball-and-Socket Tripod Head.)

Even better than a tripod from a stability standpoint was the Valoy II enlarger stand which converted with two stock adapters for use with the Visoflex I and Bellows. (A copy stand which will accept the Visoflex II will be announced in the near future . . . Ed). It permitted me to make my shots straight down rather than from a horizontal camera position. The copy stand also helped overcome camera and extension movement.

When the camera and bellows are mounted horizontally, their weight is balanced on a central point. The slightest touch on either the camera body or lens can set up an oscillation around this central pivot point.

To minimize this you can use short focal length lenses which permit greater magnification with a minimum amount of bellows extension.

Another sometimes unsuspected danger is the surface the copying equipment rest on. The floor of the room is, of course, considerably more stable than a



AFTER-HOURS WORK, with street traffic low, solved problem of vibration.

card table or even a dining-room table. But you would be amazed at how much vibration is set up when someone walks across a wooden floor or closes a door. If you use the concrete floor in the basement or garage, you will be better off.

In making the photographs in this series, I could not move out of my New York City studio and into the basement. So, I compromised by waiting until everyone had gone home and the heavy, rumbling truck traffic in the street had ceased. Most of the shots were made around midnight.

In photographing the pencil leads, I also encountered vibration from another source — the subject itself. The leads were so precariously balanced that a vagrant puff of air caused several of them to roll back and forth. This might also have occurred if they had rested on an unstable base. So, turn off the fan and close windows and doors when you begin to photograph tiny things.

lighting

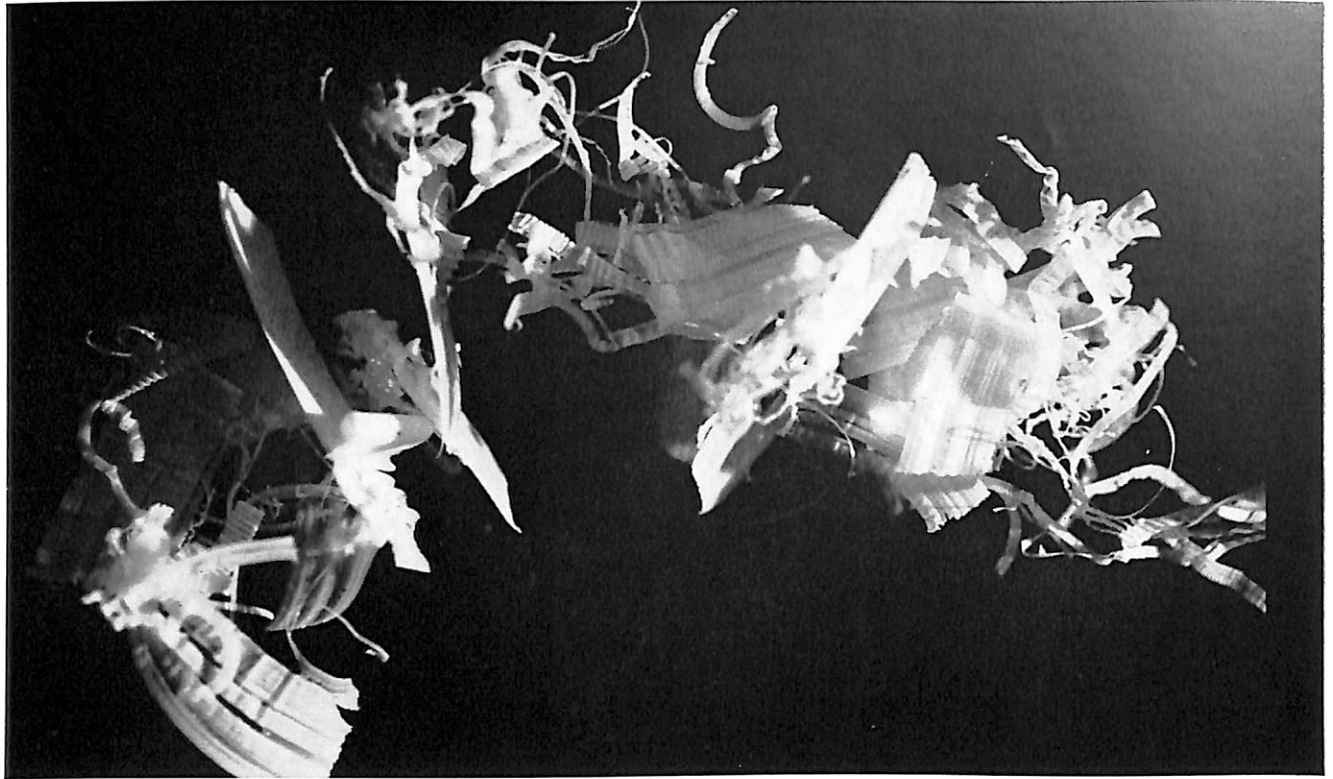
In setting up the pictures, I had to “build” the lighting to create the greatest visual interest. And, unfortunately, I found that normal lights and lighting techniques wouldn’t work for a variety of reasons. Primarily, the lights were just too big for the subject. Think about it. The usual lighting unit is a 500 watt photoflood in a 12-inch reflector. Compared to a person, this reflector is not particularly large. But, compared to a pencil lead, it is huge. A 12-inch reflector two feet from a person’s face produces a

definite light coming from one direction. The same light shining on the ½-inch long “Trojan Horse” is so broad that it appears to come from all directions, resulting in a flat lighting which casts practically no shadows and does not delineate shapes or textures.

Also, because of their size, they are practically impossible to position to create the desired lighting effects. Remember: in close-up work, the camera lens is often within a couple of inches of the subject. In addition, there are usually a number of stands, braces, reflectors, etc., near the subject. More often than not, when I moved a light, it would throw an unwanted shadow into the picture area. Provided it was possible to move the light at all!

Finally, I had an inspiration. I found that a slide projector would solve many of my lighting problems. Thanks to the controlled light beam, it was possible to position the light precisely where it was needed. I used a Pradolux, because of its low operating temperature, but other projectors will also serve. The Pradolux gave an intense, strongly directional light whose source could be located far enough away from the subject to eliminate heat problems. At close working distances, ordinary large light sources create tremendous amount of heat.

What’s more, I was able to control the light precisely because of the nature of projectors. For instance, in several cases I needed to light a small and particular area very precisely. So, I mounted a piece of aluminum foil in a cardboard slide mount and then cut an appropriately shaped hole in the aluminum



DELICATE SUBJECTS can melt or shrivel if lights are too strong. Shavings from slide rule are shown.

foil. By varying the projector lens's focus and the distance to the subject, it was possible to light special areas while leaving adjacent ones in complete shadow. Also useful were small mirrors, pieces of aluminum foil and white cardboard for lighting shadow areas the projector was unable to reach.

heat

Closely related to lighting is the problem of the intense heat. Here's why:

To photograph a small object, or a small area of a large one, it is necessary to move the camera extremely close. The larger the image you want, the closer the camera lens must get to it. However, to produce a sharp image of a close subject, the lens will be at a considerable distance from the film.

The further the lens gets from the film, the greater the exposure factor, or amount by which the meter reading must be multiplied. For example, if you have sufficient lens and bellows extension to produce an image on the ground glass 20 times larger than the actual subject, exposure must increase 400 times over that indicated by the exposure meter! This is an extreme case, but 6x magnifications on the film, requiring increases of almost 50 times are quite common. So, if you are to have reasonably short exposures, you need a lot of light. Especially since shallow depth of field in close-up work usually demands that the lens be stopped down considerably. Lots of light means that lamps must be either extremely bright or extremely close to the subject. Either case means heat, which can bring out subject movement. For instance, a lot of heat will, in a short time, cause a thin piece of metal to expand. Result: possible subject movement and even distortion of the subject. It will wilt a plant leaf, cause a piece of specimen to

shrivel up, or melt a piece of plastic.

A practical solution to this problem was to refrain, when possible, from making really extreme close-ups with the camera. By settling for a smaller image on the film, I could cut exposure time, use less-intense lights, and keep the lights further away from the subject.

depth of field

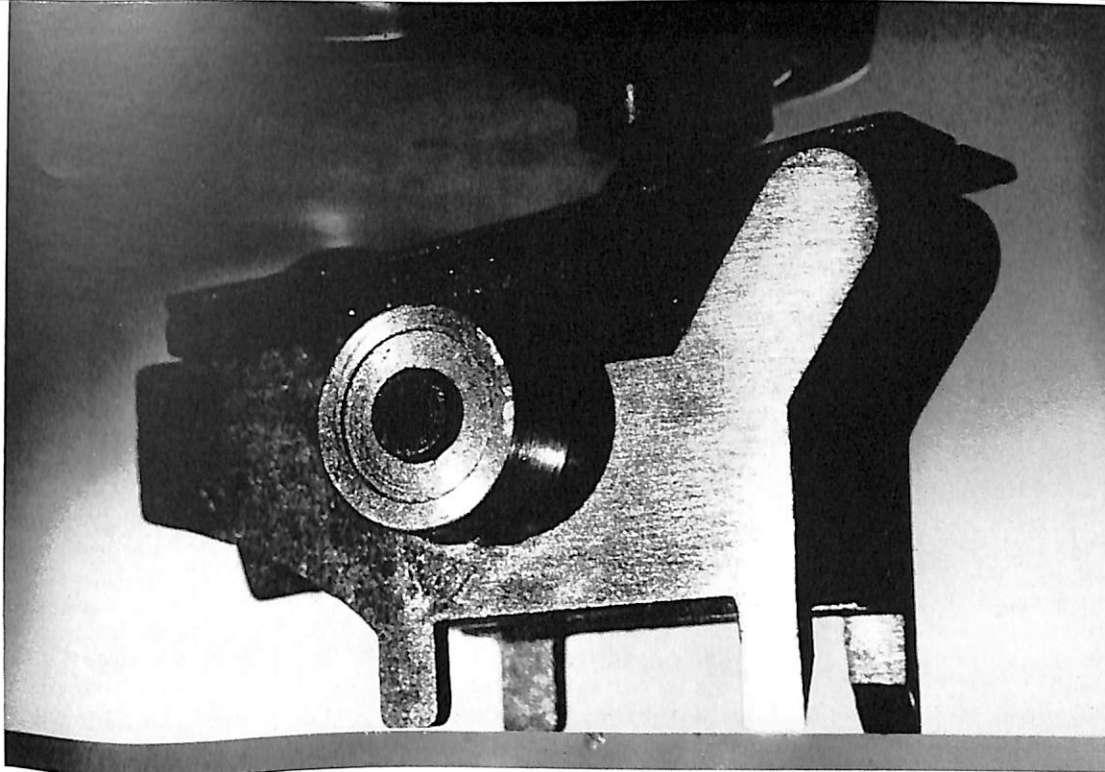
A characteristic of close-up photography is an extremely shallow depth of field. The greater the enlargement, the shallower the depth becomes. At the same time, it is often necessary to make an extreme enlargement—which also decreases the depth of field.

Ordinarily, if you want a large image you move the camera in as close as necessary and frame only the area you want. But when you do this the laws of optics provide you with little depth of field.

I encountered this problem particularly when making the "Trojan Horse." The client wanted to show the entire cutting head of the instrument. Indeed, that was necessary to carry across the visual idea of the ad headline. At the same time, it was necessary to isolate the cutting head from the rest of the instrument or it would become lost and confused against a background of other parts. So, I selected a 45° camera angle, and filled the frame with the cutting head image.

But the resultant photograph had only the foreleg and head sharp. The rest fell off into extreme unsharpness.

Since the exposure was at f/16, I already had almost as much depth as it was possible to get from that optic at that lens-to-subject distance. Stopping down to f/22, which was possible, would have given a slight increase in depth, but would have doubled



ENOUGH DEPTH of field was achieved by increasing camera-subject distance, then increasing size of final image.

the exposure needed. But happily, the solution to the problem of hot lights (using a smaller image needing less exposure) worked for the depth problem as well. To get the needed depth, I moved the camera back until the image was only half as large as it had been previously. This was far enough so that, at $f/16$, there was sufficient depth to give acceptable sharpness in the final print.

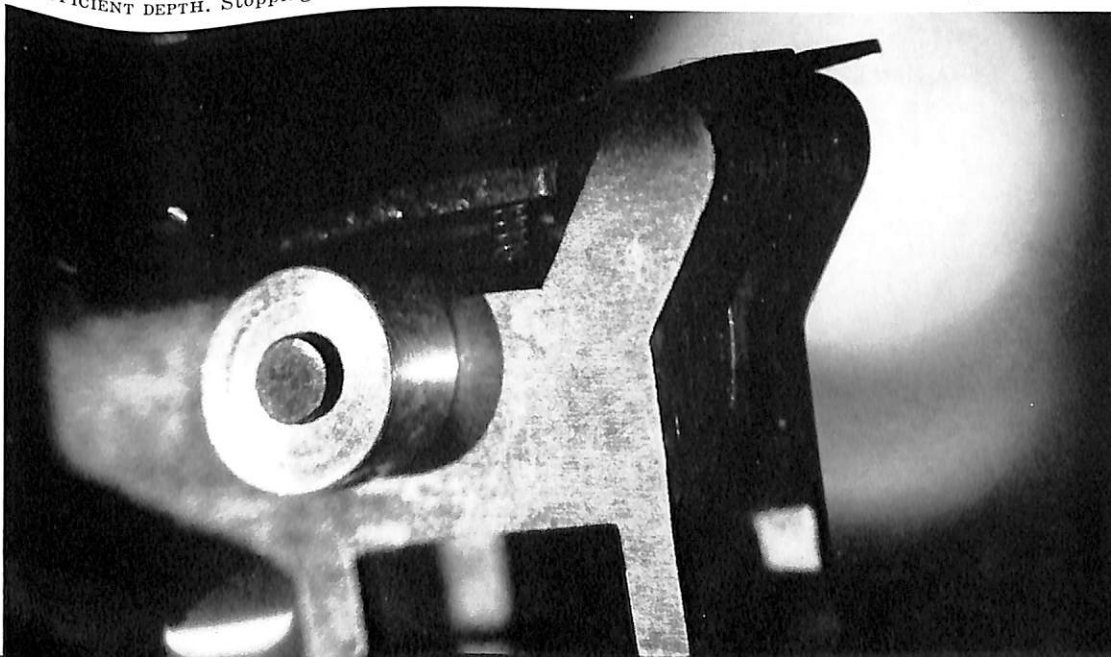
Of course, a smaller image on the film called for greater magnification in the final print. With fine-grain film, high resolution and today's marvellous lenses, however, results were satisfactory, even though only a section of the negative was enlarged.

Note the term "acceptable sharpness" which I used. I have learned if a subject is extremely sharp in the foreground, a slight amount of unsharpness in the background will go almost unnoticed. There

is no hard and fast rule as to the degree of unsharpness in the background. It is a matter of trial and error, and even this will vary from one subject to another.

A second approach to the depth-of-field problem, is to photograph your subject head on, so there is no depth involved. An example of this approach is the picture of the pencil-point cleaning material. It was arranged so the surface to be photographed was exactly parallel to the film plane. Therefore, when the camera focused sharply on one point, the entire image was sharp. The variations in the photographs were accomplished by changing the lighting. In one, a light was placed behind the subject to take advantage of its translucent qualities and to show its cellular structure. In the second shot, a light was skimmed along the surface to bring out its textural quality.

INSUFFICIENT DEPTH. Stopping down would have increased exposure time, and therefore the danger of vibration.



portraits with meaning | *C. B. Nieberding*

natural approach is the secret

A few years before I became interested in photography, my employer sent me to one of the local studios in town for a formal portrait. As I recall, the sitting didn't last more than five minutes. The photographer simply led me into the shooting room, placed me on a stool, stood behind a large view camera where he turned on several flood lamps, focused, inserted the sheet film, and with a few directives as to where to look and how to smile, he shot. He changed film twice and had me look in two other directions and then the whole thing was concluded — very professionally. When the proofs arrived, I didn't like any of them. Certainly, they were my likeness, but that was all. My face was so smooth it had no more character than an infant's. The lighting was unnaturally even and that smile on my face was obviously forced. I've never forgotten the incident and have since vowed never to be guilty in my own efforts of the same kind of meaningless portrait.

character

To me, a portrait should be more than a likeness of an individual. It should describe him; it should reflect his character, his attitude, or his feelings in such a way that they are immediately obvious to the onlooker. And by all means the fixed smile should be avoided. Getting these qualities in a portrait is rather simple — just go about it naturally. The ideal instrument for the job is your Leica, because it can be held in the hand free of the confines of a tripod regardless of whether flood lights are to be used or simply available light. This provides you with freedom of movement in selecting the precise angle or point of view from which to shoot. Also a hand-held Leica does not seem so formal to the sitter and he thereby relaxes and becomes more expressive. Quite often he forgets he is even sitting for a portrait.

A portrait can have meaning even without showing the face of the individual, as long as a relationship exists in the photograph that identifies either him, a mood, or a situation. A good example is the photograph of the young boy kneeling in church. It resulted from a request that I do a portrait of a friend's son on his Confirmation day. Instead of placing the boy against a plain white background, with a prayerbook and rosary in his hands and shooting

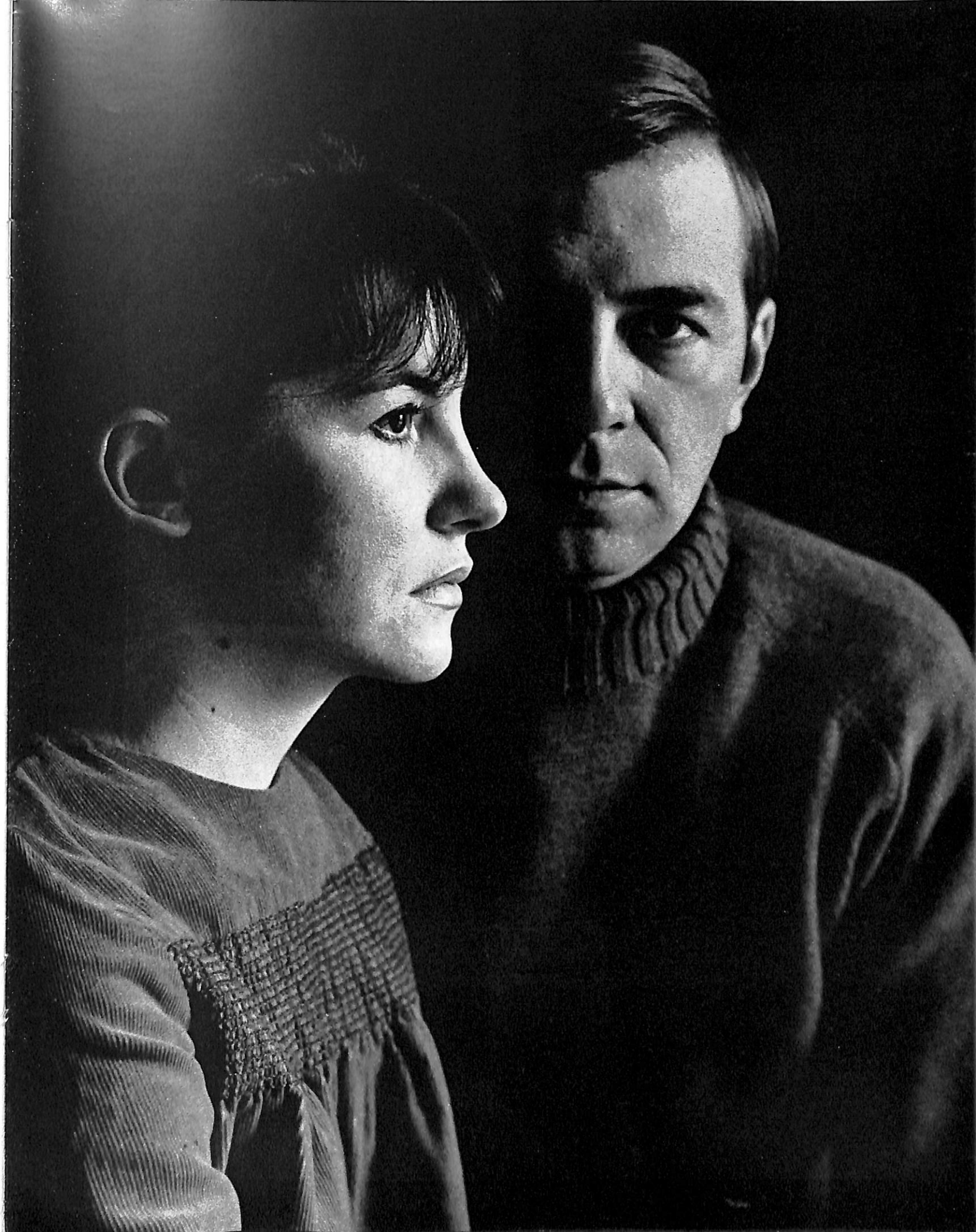
in the expected manner, I took him to a nearby church of his faith and looked for a proper setting under existing light. I found this quiet alcove and requested he kneel and say a prayer. The result, I feel, shows the relationship that should exist between a boy and his religion on the day that he must confirm his belief in God.

To get portraits with meaning, stay alert and ready during the entire sitting. Be prepared for the unexpected expression, or the anticipated reaction to a suggestion.

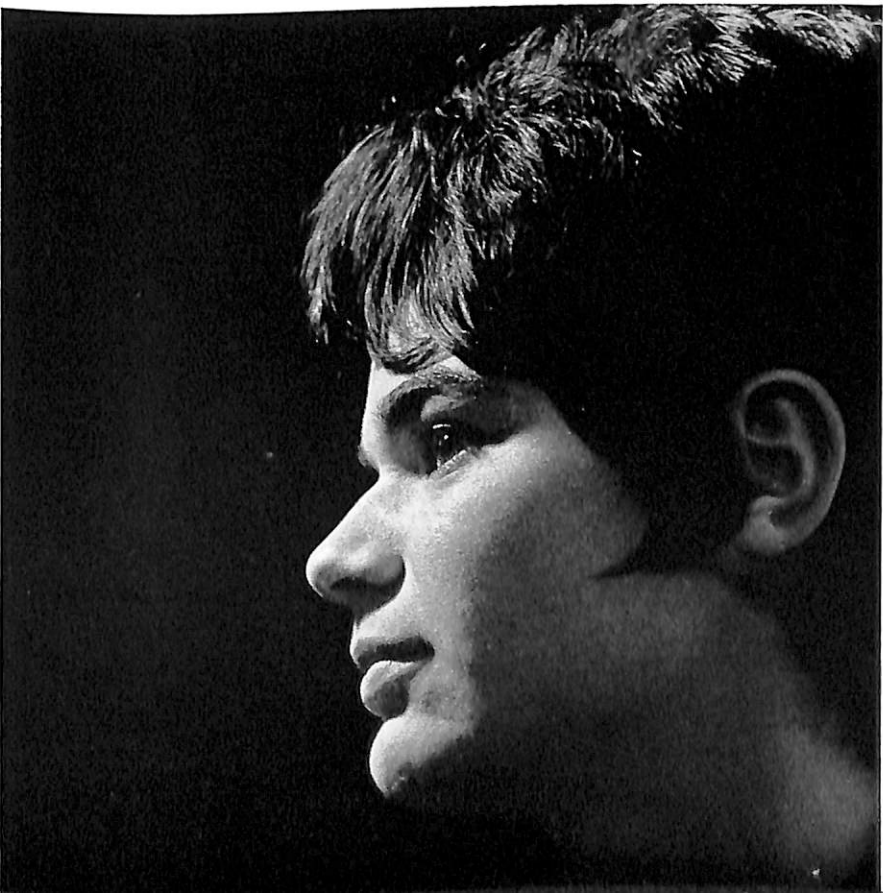
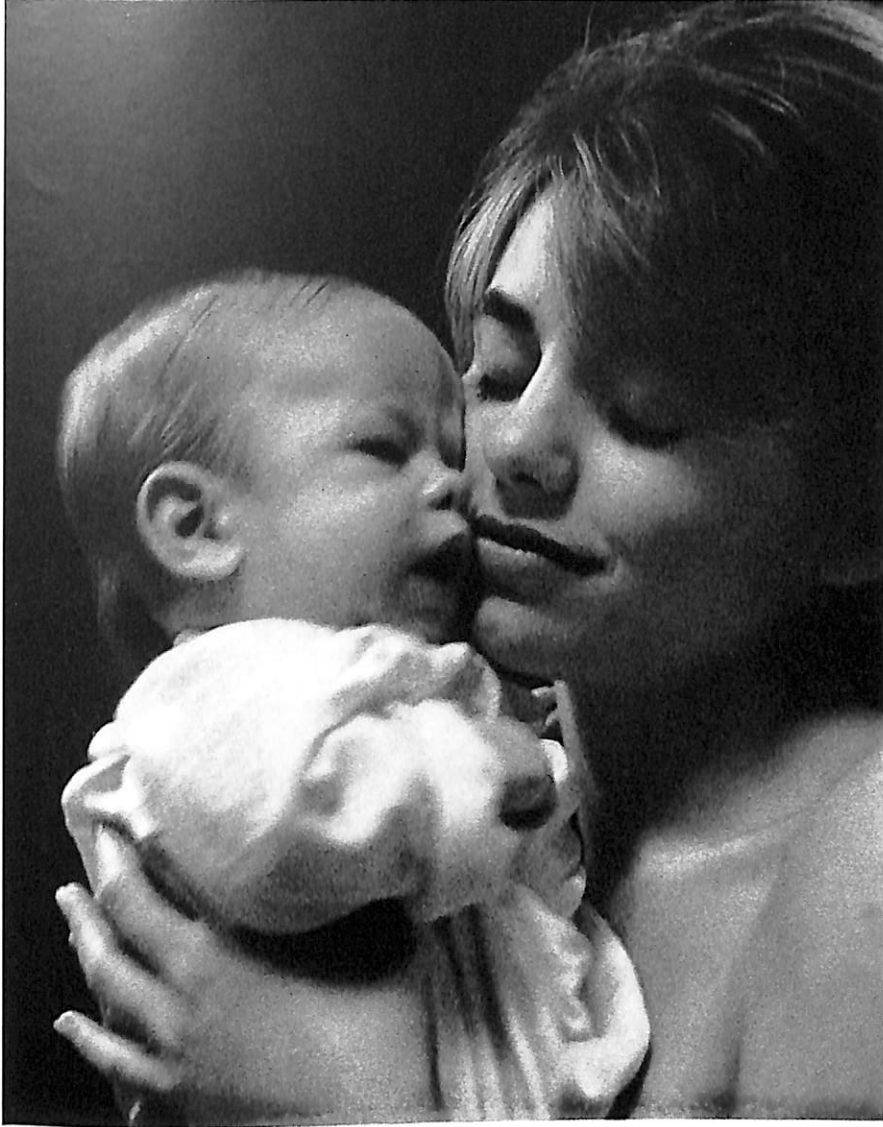
The portrait of the young mother and child, for instance, was the last shot of thirty during a sitting. I had done a group of shots of the mother alone. Then I suggested we do a few of her with her new baby. But, after six or seven shots the child began to get tired and I still hadn't caught the quality of maternal love I knew existed. After the last shot I thanked the mother. And then, anticipating a warm reaction, I made a remark about how lovable and patient her baby was. The mother quickly raised the child to express her agreement — and I took the picture. The expression on her face is genuine and could never be duplicated in a forced pose. It was the only shot of the eight that was worth showing, and its expressiveness far outweighs some technical shortcomings due to motion blur.

lighting

A meaningful portrait can be created with the help of lighting. And the best lighting is usually natural light, such as daylight pouring through a window. When such light is not available, then two flood lights can be employed — one main and one fill. However, I generally prefer to use only one from a strong directional angle to create texture, shadows, and mood. The roundness of a beautiful face can be ruined by flat, even lighting, or it can be brought out dramatically with strong lighting. The portrait of the young woman on page 25 is an example of one flood light placed directly in front and high above the subject's face. The single light becomes a hair light and main facial light. Side shadows were slightly filled in by reflection from nearby white walls. Placed against a black background, the subject stands out vividly and the contrast creates the illusion of depth.









black backgrounds

It's obvious that I prefer black backgrounds. This does not mean that white or grey backgrounds are taboo, but I feel that they distract the eye from the subject and suppress the impression of depth in the photograph. Against black, however, the subject stands out brilliantly, with a strong impression of depth and roundness, and a quality of intimacy. With this type of background, dark shadows (which are the key to depth) can be effectively used because they blend smoothly into the background. With a light background they would clash harshly, and might appear rather disturbing.

This type of lighting must be used intelligently, however. On some individuals it produces a rather unpleasing effect. For example, using a black background and dark shadows would do an injustice to a person whose hair is extremely beautiful.

When I first attempted portraiture with black backgrounds and strong directional lighting, I didn't know how the subject would react to seeing such a portrait of himself. But after I had exhibited my first one with others in an art theatre, I was amazed at the number of subsequent requests I received for portraits specifically with the black background and dark shadows. Since then this style has more-or-less become my trademark.

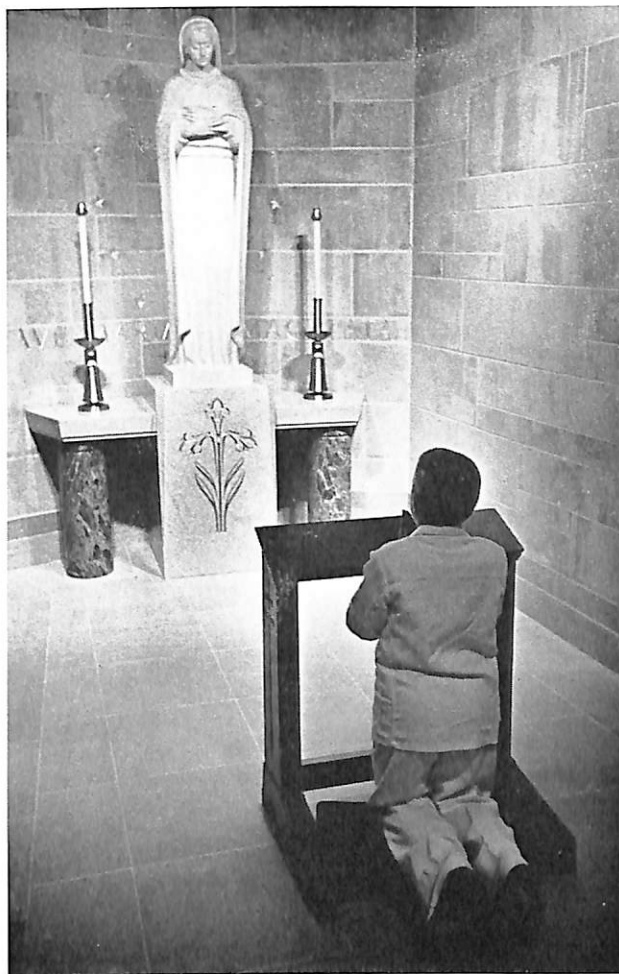
lens and film

For good portraits, don't concern yourself unduly over whether you own the proper lens or are using the proper film. The best lens for head portraits is unquestionably one with medium-long focal length. But you'll note from my examples that almost any lens will suffice; in some cases a 50mm or 35mm lens is appropriate. The choice of the *right* lens for the *right* situation can at times be an important decision in getting the most suitable effect. And the choice of film should be based on the need or desired effect. I find that either Plus X or Tri X is a good choice because the ASA range is high enough in either film to permit hand-holding the Leica under flood or available light conditions. Since either film can produce fine grain 11 x 14 or larger prints even when "pushed" to twice the normal speeds, there is little need to use the slower films whose need for relatively long exposures could introduce camera shake.

why hand hold?

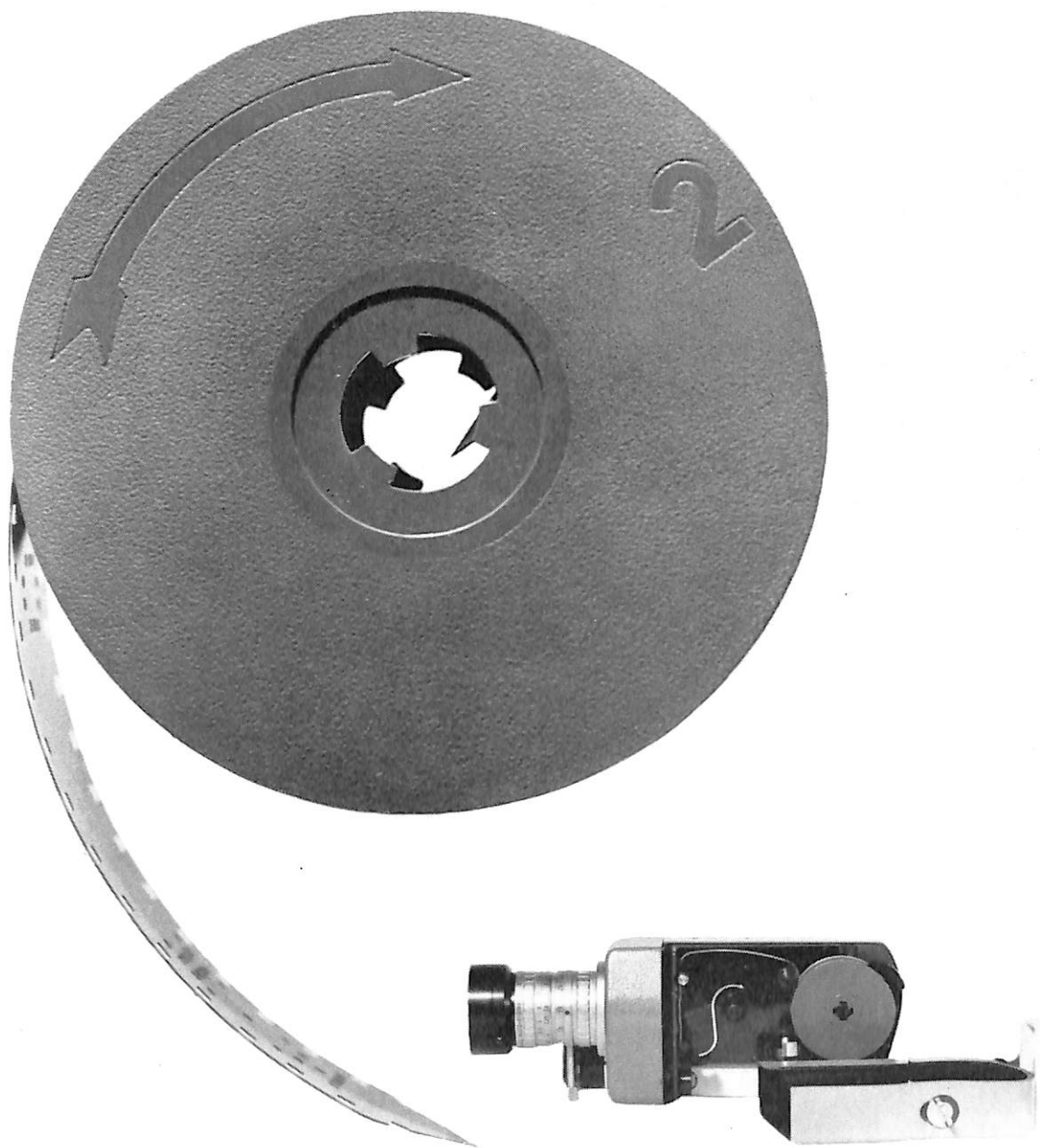
You might wonder why I consider hand-held exposures such a "must." Suppose your subject will relax in front of a tripod. Wouldn't it then be better to use the movements built into most tripods? Well, it should be quite obvious that tripod adjustments take

up valuable time and shift your attention from the sitter. The precise angle needed to catch a certain ment of the camera in any direction, and you can feature or expression might require a slight move-move your body much faster than you can adjust a tripod. Besides, focusing is simpler when the camera is hand-held. You can simply move your body forward or backward as the focusing movement rather



than try to remain steady and adjust the focusing mount on the camera.

So if you are interested in better portraits, try going about it more naturally. Keep your Leica firmly in your hand. Concentrate on simple lighting and stay in position by following the subject's movements with the camera and be ready for that instant when an expression has some meaning. And by all means, avoid the obvious approach.



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